NASED Voting Systems Certification Subcommittee

Status Update | May 2015
Why NASED?

- Need for modernization
- No EAC commissioners at the time
- State reliance on federal certification
- Create a road map
  - Short term recommendations
  - Long term recommendations
Subcommittee expanded

- **NASED Members:** Lori Augino (WA); Bob Giles (NJ); Ross Hein (WI); Keith Ingram (TX); Brandon Johnson (SD); Linda Lamone (MD); Matt Masterson (OH), Gary Poser (MN); Chris Thomas (MI); Cliff Tatum (DC) Doug Lewis (Election Center)

- **BPC/PCEA Participants:** Ben Ginsberg; Bob Bauer; John Fortier; Matthew Weil; Don Palmer; and Tammy Patrick

- **Facilitated by the Bipartisan Policy Center and the Presidential Commission on Election Administration**
Meetings

• July 29-30, 2014, Washington, DC

• October 1, 2014, Milwaukee, WI

• December 8, 2014, San Antonio, TX

• May 18, 2015, Seattle, WA
Committee Focus

• How do we move forward with the development of standards and certification of voting systems, if –
  • The EAC is shut down
  • The EAC continues without commissioners
  • The EAC continues with a quorum
Standards, Testing, and Certification
Principles

The purpose of testing and certification of voting systems, including the development of the corresponding requirement to be tested, is as follows:

- To assess the ability of the election systems to correctly execute secure, usable and accessible elections in the jurisdictions in order to provide assurance to voters that the election is an accurate reflection of the voters’ will.
- To enable, not obstruct or impede, innovation and needed response to changing statutes, rules, or jurisdictional and voters’ needs.
- To provide deployable systems and system modifications in a timely manner based on generally recognized elections calendars and schedules.
- To provide an open and transparent process that allows voters and election jurisdictions to assess the performance and capability of the election systems.
- To provide a set of testable requirements that jurisdictions can understand and use to procure and evaluate the performance of election systems.
December 19, 2014

The Honorable Matthew Masterson, Commissioner
United States Election Assistance Commission
1335 East West Highway
Suite 4360
Silver Spring, Maryland 20910

Dear Commissioner Masterson:

Congratulations on your confirmation to serve as a Commissioner on the U.S. Election Assistance Commission. As the National Association of State Election Directors (NASED), we write to share with you what we believe are important issues for the EAC to address immediately related to voting system standards and certification.

These recommendations are the product of several meetings of NASED’s Sub-Committee on Voting Systems Certification and endorsed by the full NASED membership in collaboration with the Presidential Commission on Election Administration (PCEA) and the Bipartisan Policy Center (BPC), a Washington, DC-based think tank that actively promotes bipartisan policy solutions to address key challenges facing the nation. These recommendations also follow on the recommendation of the PCEA, which called for the standard-setting and certification process for voting machines to be reformed.

First, the EAC should publicly discuss, consider, and adopt the pending Draft Voluntary Voting System Guidelines Version 1.1 (Ver. 1.1) shortly after the Commission establishes a quorum. With this, there should be a reasonable transition period for the implementation of new standards.

While the EAC has not been able to meet for several years, the administrative aspects of the certification process have moved forward. Though this has facilitated the certification of new voting systems, it has done so under a set of standards that dates back to 2005. Ver. 1.1 includes many significant improvements, but most importantly, it provides for voting technology to be certified to more recent standards. NASED views this as an essential interim step in the reimagining of voting system certification.

NASED recognizes that the EAC will engage in a deliberative process to consider these recommendations. However, NASED urges that consideration be speedy and that a vote to adopt Ver. 1.1 occur within six months of the Commission reconstituting a quorum. Fortunately, the Ver. 1.1 standards have already had significant expert and public input, including multiple rounds of public comment. Therefore, NASED does not believe it is necessary to reopen Ver. 1.1 to additional rounds of public comment and further delay their consideration.

Following approval of Ver. 1.1, the EAC should implement a more deliberate process to modernize the standards and certification process for the long term. A re-imagined Voluntary Voting System Guidelines Version 2.0 (Ver. 2.0) would be an opportunity to make the necessary structural changes for the future of voting systems. However, without expedient approval of Ver. 1.1, any states making purchases of voting technology in the next three years will be limited by increasingly outdated standards and technology.

It is important for any voting system standards process to recognize that state and local governments will upgrade or replace voting equipment over a period of years and, therefore, new standards, as developed and adopted by the EAC, are additional choices for elections jurisdictions. As a result, it must be clear that voting equipment approved under any set of VVSG by the EAC is suitable for use in elections unless the EAC determines that continued use of such equipment puts elections at risk for inaccurate election results.

Second, EAC commissioners should adopt the Voting System Testing and Certification Program Manual Version 2.0. This manual includes changes to the testing process that allow for de minimus changes, testing review for the manufacturers, as well as review of software. The manual corresponds to Ver. 1.1 that the Sub-Committee recommends be adopted expeditiously.

Third, EAC commissioners should adopt the Voting System Test Laboratory Program Manual Version 2.0. This manual also corresponds to Ver. 1.1 that the Sub-Committee recommends be adopted expeditiously.

We respectfully request your thorough consideration of these recommendations and ask that you take actions as soon as possible to reform the voting system standards and certification process. We look forward to working with you to modernize our nation’s voting systems.

Sincerely,

Gary Poser
President, NASED

Gail Fenuniai
President-elect, NASED
Recommendations – Short Term

EAC commissioners should publicly discuss and adopt the following:

- The application for the new Voting System Testing Laboratory (VSTL).
Next Steps

• Work with stakeholders to continue to support and provide recommendations for Voting System Testing and Certification

• Nominating TGDC members

• Working with NIST and the EAC on next gen standards
The Future of the Voluntary Voting System Guidelines
Voting systems must function in diverse environmental conditions.

Temperature
- Hot
- Cold

Moisture
- Humid
- Dry

Static
3 Usability and Accessibility Requirements

The importance of usability and accessibility in the design of voting systems has become increasingly apparent. It is not sufficient that the internal operation of these systems be correct; in addition, voters and poll workers must be able to use them effectively. There are some particular considerations for the design of usable and accessible voting systems:

- The voting task itself can be fairly complex; the voter may have to navigate an electronic ballot, choose multiple candidates in a single contest, or decide on abstractly worded referenda.
- Voting is performed infrequently, so there is limited opportunity for voters and poll workers to gain familiarity with the process.
- Jurisdictions may change voting equipment, thus obviating whatever familiarity the voter might have acquired.
- Usability and accessibility requirements include a broad range of factors, including physical abilities, language skills, and technology experience.

The challenge, then, is to provide a voting system that voters can use comfortably, efficiently, and with confidence that they have cast their votes correctly. The requirements within this section are intended to serve that goal. Three broad principles motivate this section:

1. All eligible voters shall have access to the voting process without discrimination.

The voting process shall be accessible to individuals with disabilities. The voting process includes access to the polling place, instructions on how to vote, initiating the voting session, making ballot selections, reviewing the ballot, final submission of the ballot, and getting help when needed.

2. Each cast ballot shall accurately capture the selections made by the voter.

The ballot shall be presented to the voter in a manner that is clear and usable. Voters should encounter no difficulty or confusion regarding the process for recording their selections.

3. The voting process shall preserve the secrecy of the ballot.

The voting process shall preclude anyone else from determining the content of a voter’s ballot, without the voter’s cooperation. If such a determination is made against the wishes of the voter, then his or her privacy has been violated.

All the requirements in this section have the purpose of improving the quality of interaction between voters and voting systems.

- Requirements for general usability apply to all voting systems. Requirements for any alternative languages required by state or federal law are included under this heading.
## Assertions by Category

<table>
<thead>
<tr>
<th>Category</th>
<th>Assertion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testing</td>
<td>TA311-1: The manufacturer SHALL conduct realistic summative usability tests on the voting system with respect to the visual interface implementing the 3.1 requirements.</td>
</tr>
<tr>
<td>Testing</td>
<td>TA311-2: The summative usability tests SHALL be performed upon a completely functioning product.</td>
</tr>
<tr>
<td>Testing</td>
<td>TA311-3: The summative usability tests SHALL use representatives of the population under test not requiring use of accessibility features (as required in section 3.2, VVSG 1.0).</td>
</tr>
<tr>
<td>Testing</td>
<td>TA311-3-1: The population under test SHALL consist of a mix of voters including, but not limited to, users of different ages, genders, ethnicities, levels of education, voting experience.</td>
</tr>
<tr>
<td>Testing</td>
<td>TA311-3-2: The population under test SHALL consist of voters who are eligible to vote in the U.S.</td>
</tr>
<tr>
<td>Testing</td>
<td>TA311-3-3: The population under test SHALL NOT consist of voters who are, or have been, a poll worker, a voting machine manufacturer, a voting machine developer, in the marketing or sales of voting systems, or involved in any other position that is part of the voting process.</td>
</tr>
<tr>
<td>Testing</td>
<td>TA311-3-4: The population under test SHALL NOT consist of voters who are involved with a usability or market research business company.</td>
</tr>
<tr>
<td>Testing</td>
<td>TA311-3-5: The population under test SHOULD NOT consist of voters who have previously participated in a voting system usability test.</td>
</tr>
<tr>
<td>Testing</td>
<td>TA311-4: The manufacturer SHALL report the total number of participants tested and demographics of the participants.</td>
</tr>
<tr>
<td>Testing</td>
<td>TA311-5: Manufacturers SHOULD describe their recruiting strategy.</td>
</tr>
<tr>
<td>Testing</td>
<td>TA311-6: The manufacturer SHOULD detail any compensation given to participants.</td>
</tr>
<tr>
<td>Testing</td>
<td>TA311-7: The manufacturer SHALL describe how the voters were screened and selected.</td>
</tr>
<tr>
<td>Testing</td>
<td>TA311-8: The manufacturer SHOULD note any differences between the users profiled as recruits and the users who participated in the actual study.</td>
</tr>
<tr>
<td>Testing</td>
<td>TA311-9: The manufacturer SHALL ensure that at least eight test participants are able to complete the testing session, without assistance.</td>
</tr>
<tr>
<td>Testing</td>
<td>TA311-10: The manufacturer SHOULD ensure that at least 30 test participants are able to complete the testing session.</td>
</tr>
<tr>
<td>Testing</td>
<td>TA311-11: The manufacturer SHOULD include detailed tables of all participant demographics, whether or not they completed the test, as an</td>
</tr>
</tbody>
</table>
VVSG 1.0 Principles for Voting System
Usability and Accessibility
12/01/2014
3.1.6 Interaction Issues

The voting process shall be designed to minimize interaction difficulties for the voter.

a. Voting machines with electronic image displays shall not require page scrolling by the voter.

Discussion: This is not an intuitive operation for those unfamiliar with the use of computers. Even those experienced with computers often do not notice a scroll bar and may information at the bottom of the "page." Voting

b. The voting machine shall provide unambiguous feedback regarding the voter’s selection, such as displaying a checkmark beside the selected option or conspicuously changing its appearance.

c. If the voting machine requires a response by a voter within a specific period of time, it shall issue an alert at least 20 seconds before that time period has expired and provide a means by which the voter may receive additional time.

d. Input mechanisms shall be designed to minimize accidental activation.

i. On touch screens, the sensitive touch areas shall have a minimum height of 0.5 inches and a minimum width of 0.7 inches. The vertical distance between the centers of adjacent areas shall be at least 0.6 inches, and the horizontal distance at least 0.8 inches.

ii. No key or control on a voting machine shall have a repetitive effect as a result of being held in its active position.

Discussion: This is to preclude accidental activation. For instance, if a voter is trying to mark one of many similar candidates, depressing and holding the “A” key results in only a single “A” added to the name.

3.1.7 Privacy

The voting process shall preclude anyone else from determining the content of a voter’s ballot, without the voter’s cooperation.

Discussion: Privacy ensures that the voter can make selections based solely on his or her own preferences without tampering or inhibition. Among other practices, this precludes the influence of a recalcitrant voter that would provide proof of law be it the ballot.

3.1.7.1 Privacy at the Polls

When deployed according to the installation instructions provided by the vendor, the voting station shall prevent others from observing the contents of a voter’s ballot.